

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number:

0 393 775
A1

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: 90200925.7

(51) Int. Cl.⁵: G03F 9/00

(22) Date of filing: 13.04.90

(30) Priority: 20.04.89 NL 8900991

(43) Date of publication of application:
24.10.90 Bulletin 90/43(64) Designated Contracting States:
DE FR GB(71) Applicant: A.S.M. LITHOGRAPHY B.V.
Melerijweg 15
Veldhoven(NL)(72) Inventor: Wittekoek, Stefan
Int. Octroolbureau B.V. Prof. Holstlaan 6
NL-5656 AA Eindhoven(NL)
Inventor: Van den Brink, Marinus Aart
Int. Octroolbureau B.V. Prof. Holstlaan 6
NL-5656 AA Eindhoven(NL)(74) Representative: Cobben, Louis Marie Hubert
et al
INTERNATIONAAL OCTROOIBUREAU B.V.
Prof. Holstlaan 6
NL-5656 AA Eindhoven(NL)

(54) Apparatus for projecting a mask pattern on a substrate.

(57) An apparatus for projecting a mask pattern (MA) on a substrate (W) by means of a projection lens system (PL) is described, which apparatus comprises a device for aligning a substrate alignment mark (P_1 ; P_2) with respect to a mask alignment mark (M_1 ; M_2), the projection lens system (PL) forming part of the alignment device. A correction element (25) is arranged in this system (PL) to compensate for the fact that this system (PL) is not optimised for the wavelength of the alignment beam (b).

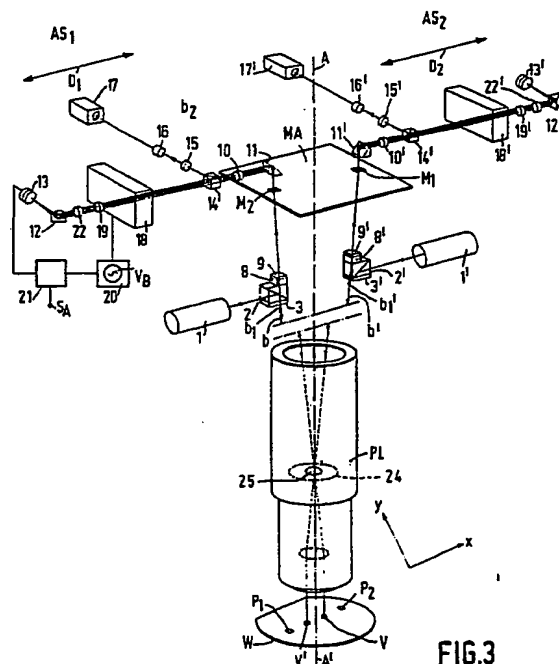


FIG.3

EP 0 393 775 A1



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 90 20 0925

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
D,A	EP-A-237109 (ASM LITHOGRAPHY) * pages 11 - 25; claim 10; figures * & US-A-4778275 ---	1, 3, 4, 7, 10 11, 13, 16-19	G03F9/00
A	DE-A-1904504 (WESTERN ELECTRIC) * pages 5 - 9; figures * ---	1, 3	
D,A	DE-A-2608176 (LENINGRADSKI INSTITUT TOTSCHNOJ MECHANIKI I OPTIKI ET AL.) * page 11, last 3 lines - page 12, figures 4-7 * -----	12	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			G03B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 15 JUNE 1990	Examiner HERYET C. D.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

1
EPO FORM 1500 03.82 (P0401)